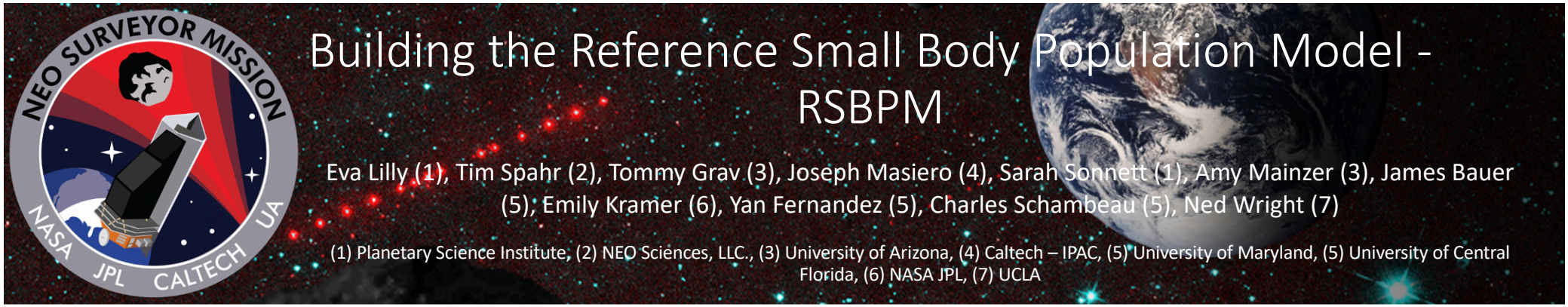

Building the Reference Small Body Population Model - RSBPM

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- Developed for Near-Earth Object Surveyor (NEO Surveyor) project
- RSBPM - our best estimate of the small body populations in the Solar system
- Will contain up-to-date information on the orbital elements, diameter- and albedo distributions of most small-body populations
- Will include activity parameters for comets
- Will be peer-reviewed and publicly available in open-access journals
- Essential tool for modeling the performance of NEO Surveyor and engineering trade-offs before launch and in-flight
- Yardstick to measure progress against the mission's Level 1 requirements

Small Body Populations in the RSBPM

- RSBPM will include:
  - Diameter-debiased NEO model (D>20m)
  - Mars crossers
  - MBAs (D> several hundred m)
  - MBA families
  - Comet populations
  - Centaurs
  - Jupiter Trojans
  - Interstellar Objects (active & inactive)

- WILL NOT include trans-Neptunian objects

Subpopulation	Population Model	Status
Atira	NEA	To be added
Aten	NEA	Included in preliminary version of the model > 220,000 objects with 10 < H < 26
Apollo	NEA	
Amor	NEA	
Earth Co-orbitals	NEA	To be added
Mars-crossers	MBA	Included in preliminary version of the model >13 mil. objects with 5 < H < 27
Main Belt Asteroids	MBA	
MBA families	MBA	
Hungarias	MBA	
Cybeles	MBA	
Hildas	MBA	
Thules	MBA	
Jovian Trojans	Trojan	-
Centaurs	Centaurs	-
Jupiter Family Comets (JFCs)	Comet	Under development
Halley-type Comets (HTCs)	Comet	
Long Period Comets (LPCs)	Comet	
Interstellar Objects (IOs)	IOs	-

NEO Detection rate